



Office de la propriété
intellectuelle
du Canada

Un organisme
d'Industrie Canada

Canadian
Intellectual Property
Office

An Agency of
Industry Canada

PCT/CA 2004/000487

21 APRIL 2004 21.04.04

REC'D 05 MAY 2004

WIPO PCT

Bureau canadien
des brevets
Certification

Canadian Patent
Office
Certification

La présente atteste que les documents
ci-joints, dont la liste figure ci-dessous,
sont des copies authentiques des docu-
ments déposés au Bureau des brevets.

This is to certify that the documents
attached hereto and identified below are
true copies of the documents on file in
the Patent Office.

Specification and Drawings, as originally filed, with Application for Patent Serial
No. 2,424,771, on April 7, 2003, by BUZZ TECHNOLOGIES, assignee of Harold Cruz
Cabrera, Richard Bruce Sloane, Stephen Andrew Wach and Kyle Andrew McGrath Geske,
for "System and Method for Attaching Advertisements to Media Files".

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH
RULE 17.1(a) OR (b)


Agent certificateur/Certifying Officer

April 21, 2004

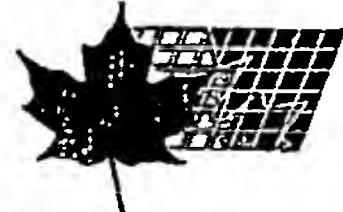
Date

Canada

(CIPO 68)
04-09-02

BEST AVAILABLE COPY

OPIC



CIPO

- 12 -

ABSTRACT

A system and method for appending at least one secondary file to a primary file creating a composite file to be shared by a user of a peer-to-peer (P2P) file sharing network. The secondary files are dynamically attached to primary files
5 using a secondary client module and a secondary file storage system integrated with the P2P client. An encrypted data segment prevents unauthorized decoupling of the composite file.

SYSTEM AND METHOD FOR ATTACHING ADVERTISEMENTS TO MEDIA FILES

FIELD OF THE INVENTION

This invention relates to a system and method for appending secondary files to a primary file, of similar type, to be shared in a peer-to-peer (P2P) file-sharing

5 network.

BACKGROUND

A user of a P2P network can search and download files from the hard drive of any other user of the same network. This file sharing technology allows the sharing of files of any file type. The files most frequently shared are music files. This 10 resulted in the recent popularity of P2P file sharing networks. There now are several companies offering P2P software. While these companies boast millions of users on their networks, an effective business model that fully utilizes this user base has been lacking. Most companies resort to "Banner Advertising" or including "Spy Ware" with their software to generate revenue.

15 Furthermore, these P2P software providers face litigation from the recording industry. It is claimed that P2P file sharing networks are reducing record sales and that the artists are being compensated inadequately. The recording industry's strategy for dealing with P2P file sharing networks has been characterized as inefficient, impractical and expensive. It is, in any event, largely ineffective.

20 SUMMARY

According to one aspect of the present invention there is provided a file sharing system having, a peer-to-peer file sharing network of the type including:

at least one first file storage for storing primary files to be shared; and

at least one primary client module connected to the first file storage for

25 downloading files from the first file storage and from other clients over the network, and for uploading files to the first file storage and to other clients over the network, the

- 2 -

improvement comprising:

- a secondary file storage for storing secondary files;
- a secondary client module connected to the primary client module for downloading secondary files from the secondary file storage, for forming composite
- 5 file by appending a secondary file to each primary file downloaded by the primary client module and for causing the primary client module to upload only the composite files.

The secondary client module and the client module of the peer-to-peer file sharing network are preferably integrated. This permits the secondary file to be

10 dynamically appended to the primary file. The composite file may contain an encrypted data segment to prevent unauthorized decoupling of the secondary file and the primary file. However, the encrypted data segment will allow authorized decoupling of the secondary file and the primary file so as to append a new secondary file. Statistical information about the transmission of secondary files is passed from

15 the secondary client module to the secondary file storage system for reporting.

The secondary file will be, in most cases an advertising file, the distribution of which will provide revenue to support the network and to compensate file owners, for example music publishers.

The peer-to-peer file sharing network may be any generally conventional

20 network of this type, providing at least one file storage location for primary files. It also provides at least one client module connected to each file storage location and the network. These client modules allow for the downloading and uploading of primary files to and from the file storage location and network.

In most cases, the primary file, secondary file and composite file will all

25 be media files with ID tags appended thereto identifying the content of the files. The secondary client module may include a means for interrogating the ID tag of a primary

- 3 -

file for selecting a secondary file compatible with the ID tag.

The secondary client module may be integrated with the client module of the peer-to-peer file sharing network through an application programming interface. It downloads the secondary file from the secondary file storage system and appends the
5 secondary file to the primary file. Also, the secondary client module causes the client module of the peer-to-peer file sharing network to upload only the composite file to the network or the first storage.

The preferred secondary file storage provides a management console to monitor and control all uploaded secondary files. In addition, it stores, displays, and
10 reports statistical information about secondary files transferred to the secondary client module and appended to the primary files and about the distribution of composite files.

According to another aspect of the present invention there is provided a method of operating a peer-to-peer file sharing network including:

- 15 at least one first file storage for storing primary files to be shared;
at least one client connected to the first file storage for downloading files from the first file storage and from other clients over the network, and for uploading files to the first file storage and to other clients in the network,
said method comprising:
20 providing a secondary file storage
storing secondary files in the secondary file storage;
downloading a primary file;
downloading a secondary file;
forming a composite file by appending a secondary file to the primary
25 file; and
uploading the composite file to the network.

- 4 -

The method may include the steps of identifying an ID tag appended to the primary file; matching the ID tag with at least one compatible secondary file; downloading the compatible secondary file to the client module to be appended to the primary file with an encrypted data segment to form the composite file.

5 This system and method can deliver advertising messages, preferably targeted, promoting a particular product, service, individual, company, organization, event or any other data type that may be selected. The key distinguishing feature of this invention is the integration of a P2P client and the secondary client module that is responsible for appending the secondary files. This is different from most advertising
10 delivery systems where a central server on the Internet appends the advertisement files. By having the P2P client perform the attachment, the system guarantees that all media files being shared on a P2P network will have an advertisement file appended to it.

BRIEF DESCRIPTION OF THE DRAWINGS

15 In the accompanying drawings, which illustrate an exemplary embodiment of the present invention:

Figure 1 illustrates the normal operation of a peer-to-peer file-sharing network;

20 Figure 2 illustrates the operation of a P2P network integrated with a secondary client module and secondary file storage;

Figure 3 is a flowchart depicting the secondary file selection process.

Figure 4 depicts the process for transferring a secondary file to the secondary client; and

25 Figure 5 depicts the structure of the composite file after a secondary file has been appended to a primary file.

- 5 -

DETAILED DESCRIPTION

Referring to the accompanying drawings, there is illustrated a method and system for appending at least one secondary file to a primary file of similar type. For security purposes, the secondary and primary files are combined utilizing an
5 encrypted data segment included with the secondary file. The resulting composite media file cannot be separated without decoding the encrypted data segment.

Figure 1, illustrates a typical P2P environment in which the present invention operates, consisting of a client module 10 which allows a computer to share files from a file storage 12 with any other computer connected to the same network
10 14. The typical operation is as follows: a user will search for a file that he or she wishes to download and when a match returns, the user can select the desired file and start downloading it. When a file is being shared, the computer requesting the file will establish a direct connection to the other computer and then the download will start. The computer from where the files are being fetched is performing the
15 uploading of the file to the requesting computer.

Figure 2 shows the schematic diagram of the overall system including a secondary client module 16 integrated with the P2P client module 10. As in a typical P2P file sharing system, a user will download a file from a file storage location 12 or upload a file to a file storage location 12 via a P2P client module 10. However, in the
20 present invention, a secondary client module 16 integrated with the P2P client module monitors file transfer activity. Once the P2P client receives a request, the secondary client module interrogates the primary file to determine what secondary files may be suitable for appending. This is particularly useful for incorporating targeted advertising messages to a specific audience. At least one secondary file is then
25 appended to the primary file forming a composite file. Finally, the secondary client module enables the P2P client to upload the composite file either to the file storage or

to the user of the P2P network.

The secondary file storage 18 is primarily responsible for sending the secondary files to the secondary client module. However, it also collects statistics about appended secondary files gathered by each of the secondary client modules.

- 5 Both the secondary files and statistical information are stored in a database. The secondary file storage also has a graphical user interface (GUI) management console for creating and managing the different secondary files. In addition, the console enables viewing of statistics and generation of reports.

Figure 3 illustrates the decision process for the selection of a secondary
10 file for appending to a primary file. For example, when the P2P client module receives a file transfer request for an MP3 file, the secondary client module interrogates the file for an ID3 tag. If no ID3 tag exists, then a secondary file may be selected based on the time of day of its request. This is particularly useful when certain time intervals experience a large volume of file transfer requests, advertising
15 could be sold for unique time slots. If there are no secondary files that match a time of day request, then a generic secondary file is selected for appending to the primary file.

If such an ID3 tag exists, it is examined for the media file's music genre and a secondary file is selected that matches a profile associated with the genre.
20 However, in some cases no music genre information is present in the ID3 tag. In these cases, the ID3 tag is scrutinized for the artist of the media file and a secondary file is selected that matches a profile associated with the artist. When no information exists for both the genre and artist in the ID3 tag, a secondary file may be selected based on a time of day request, as above. Finally, when no secondary files matches
25 a time of day request, then a generic secondary file is selected for appending to the primary file.

- 7 -

In the example of a MP3 file, only the genre and artist was used for selecting appropriate secondary files for attachment. Clearly, other information could be used as selection criteria, for example the user's sex, age, and location.

Figure 4 shows the process of transferring a secondary file to the 5 secondary client 16. The secondary client sends a request for secondary files to the secondary file storage 18, at a specified time interval. The request will contain information pertaining to the particular client, for example, client's ID, location and other demographic information. The secondary file storage replies by sending a list of 10 secondary files required by the secondary client based on the information provided in the request. The secondary client will download the required secondary files from the secondary file storage or other P2P clients on the same P2P network 14. This whole 15 process is repeated at each specified time interval.

Figure 5 shows how a secondary file 20 is attached to a primary file 22 and the structure of the resulting composite file 24. The secondary file data 20 component 20a is dynamically attached to the end of the primary file data component 22a with the resulting composite file appearing to be a single file. Alternatively, the 25 secondary file data component 20a could be added to the beginning of the primary file data component. The secondary file is appended to the primary file and there is no way it can be removed without decoding an encrypted data segment included in a secondary tag 20b that is part of the secondary file. The secondary tag 20b contains information about the secondary file and the type of primary file it should be appended to. In Figure 3, the example used is that of an MP3 file. The ID3 tag 22b on the MP3 file contains information about its music genre. This information is matched to the secondary tag of the secondary file, for example, an advertisement file.

While one embodiment of the present invention has been described in the foregoing, it is to be understood that other embodiments are possible within the

- 8 -

scope of the invention. The invention is to be considered limited solely by the scope of the appended claims.

- 9 -

EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A file sharing system having, a peer-to-peer file sharing network of the type including:

5 at least one first file storage for storing primary files to be shared; and
at least one primary client module connected to the first file storage for
downloading files from the first file storage and from other clients over the network,
and for uploading files to the first file storage and to other clients in the network,
the improvement comprising:

10 a secondary file storage for storing secondary files;
a secondary client module connected to the primary client module for
downloading secondary files from the secondary file storage, for forming a composite
file by appending a secondary file to each primary file downloaded by the primary
client module and for causing the primary client module to upload only the composite
15 file.

2. A system according to Claim 1 wherein the primary file, secondary file
and composite file are all media files with an ID tag appended thereto identifying the
content of the files.

3. A system according to Claim 2 wherein the secondary client module
20 includes a means for interrogating the ID tag of a primary file for selecting a
secondary file compatible with the ID tag.

4. A system according to Claim 1, 2 or 3 wherein the secondary client
module is integrated with the client module of the peer-to-peer file sharing network
through an application programming interface.

25 5. A system according to any one of Claims 1 to 4 wherein the secondary
file storage includes a management console to monitor and control all uploaded
secondary files.

- 10 -

6. A system according to any one of Claims 1 to 5 wherein the secondary file storage stores, displays, and reports statistical information about secondary files uploaded to the secondary client module.

7. A method of operating a peer-to-peer file sharing network including:

5 at least one first file storage for storing primary files to be shared;
at least one client connected to the first file storage for downloading files from the first file storage and from other clients over the network, and for uploading files to the first file storage and to other clients in the network,
said method comprising:

10 providing a secondary file storage
storing secondary files in the secondary file storage;
downloading a primary file;
downloading a secondary file;
forming a composite file by appending a secondary file to the primary
15 file; and
uploading the composite file to the network.

8. A method according to Claim 7 further comprising the steps of:
receiving a request for a primary file from a user through the client
module;

20 identifying a primary file ID tag forming part of the primary file;
matching the primary file ID tag with a compatible secondary file;
downloading the compatible secondary file to the client module;
forming a composite file by appending the compatible secondary file to
the primary file; and

25 uploading the composite file to said user

9. A method according to Claim 7 or 8 wherein the secondary file is

- 11 -

dynamically appended to the primary file.

10. A method according to Claim 7 or 8 further comprising including in the composite file an encrypted data segment to prevent unauthorized decoupling of the secondary file and the primary file.

5 11. A method according to Claim 10 further comprising decoding the encrypted data segment, decoupling the secondary file from the primary file and appending a new secondary file to the primary file.

12. A method according to any one of Claims 6 to 11 including recording statistical information about the downloading and uploading of secondary files.

CA 02424771

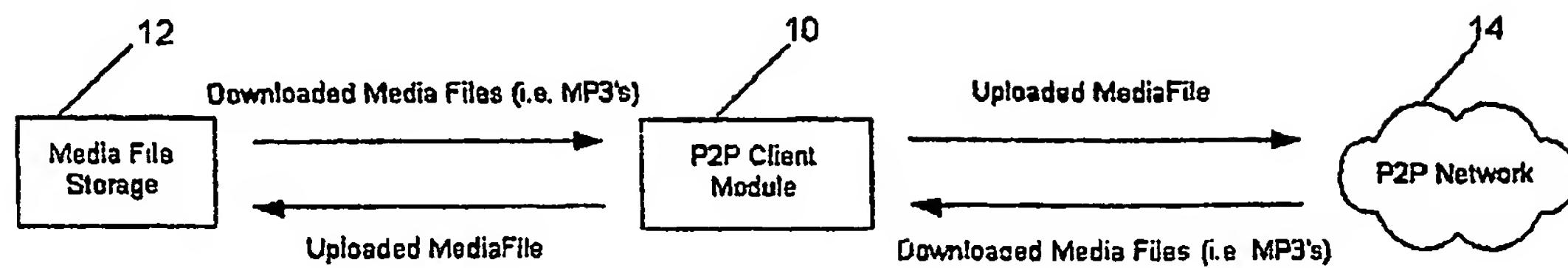


Figure 1

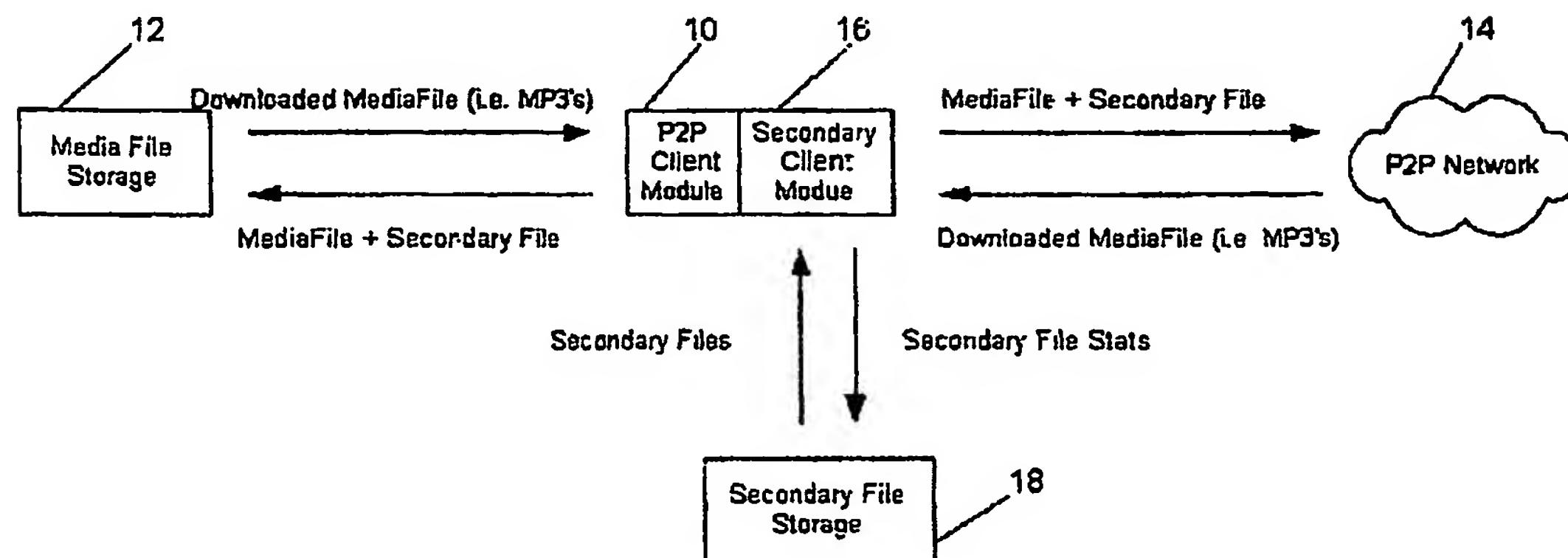


Figure 2

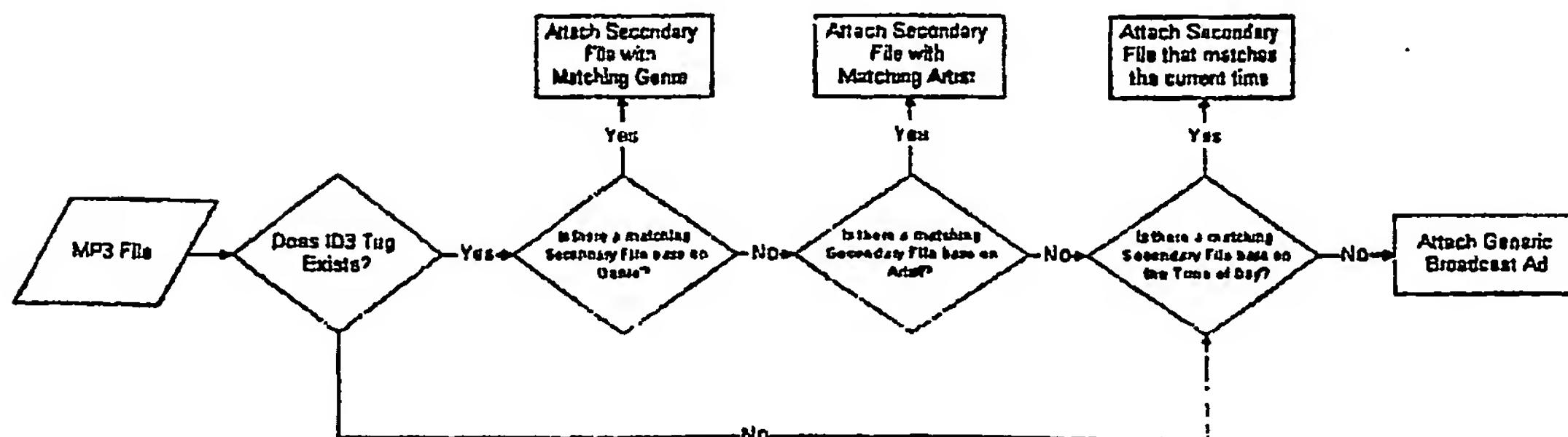
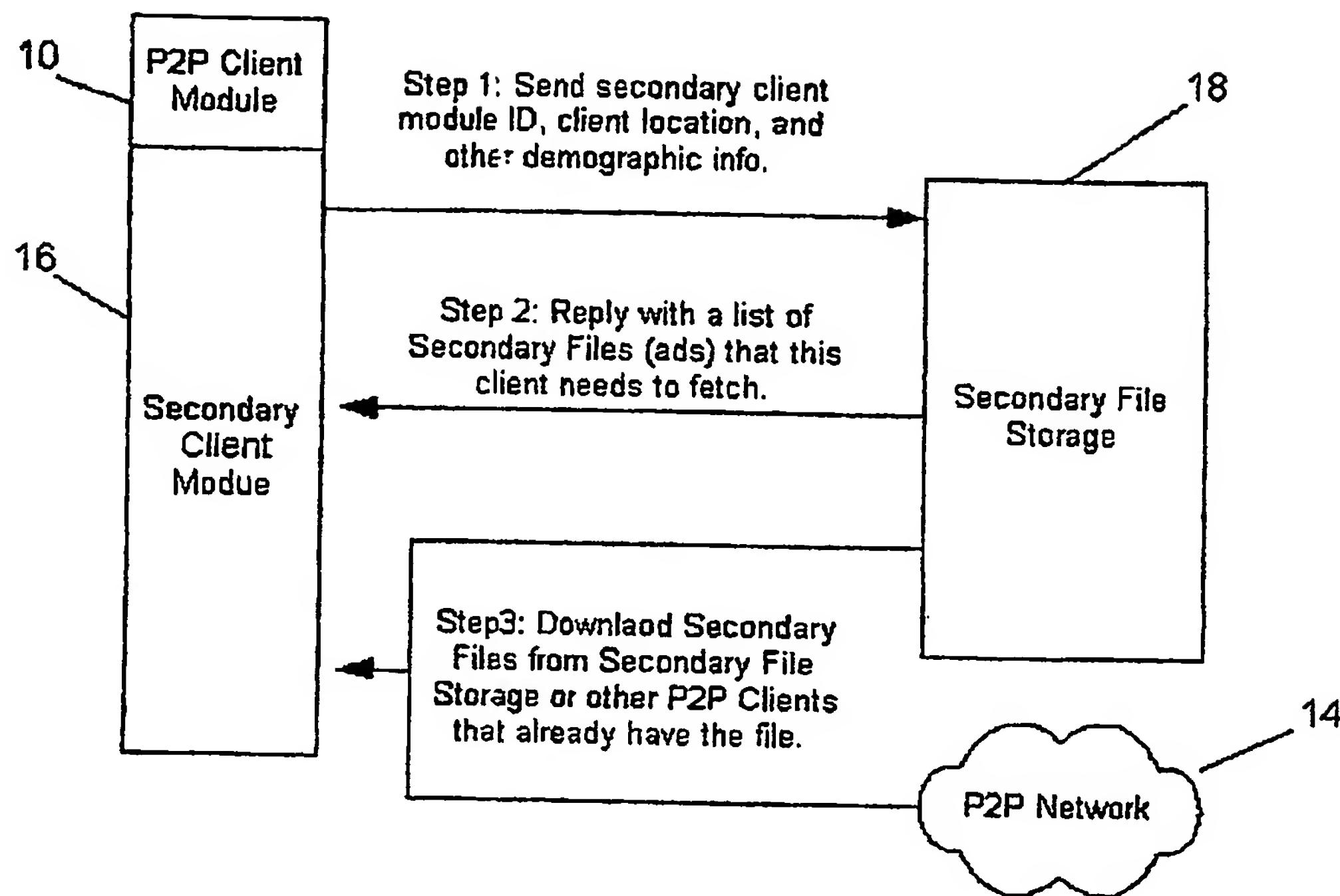
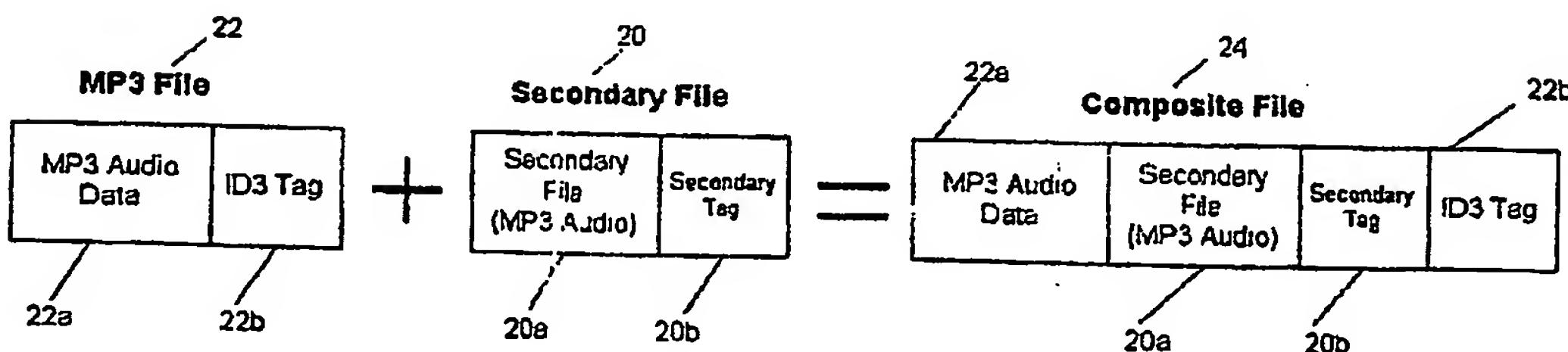


Figure 3

INVENTOR: HAROLD CRUZ CABRERA

By: AIKINS, MACAULAY & THORVALDSON

**Figure 4****Figure 5**

INVENTOR: HAROLD CRUZ CABRERA
By: AIKINS, MACAULAY & THORVALDSON

INTERNATIONAL SEARCH REPORT

International Application No.
NL/CA2004/000487

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G11B G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 03, 3 April 2002 (2002-04-03) & JP 2001 318814 A (SANYO ELECTRIC CO LTD), 16 November 2001 (2001-11-16) abstract	1,7
Y	-----	2-6,8-12
X	US 2003/051237 A1 (SAKO YOICHIRO ET AL) 13 March 2003 (2003-03-13) paragraph '0008! - paragraph '0014!	1,7
X	US 6 209 004 B1 (TAYLOR COLIN R) 27 March 2001 (2001-03-27) column 3, line 20 - column 5, line 50	1,7
X	US 6 330 073 B1 (SCIATTO BRIAN) 11 December 2001 (2001-12-11)	1,7
A	column 1, line 60 - column 2, line 59 -----	2-6,8-12
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- °A° document defining the general state of the art which is not considered to be of particular relevance
- °E° earlier document but published on or after the international filing date
- °L° document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- °O° document referring to an oral disclosure, use, exhibition or other means
- °P° document published prior to the international filing date but later than the priority date claimed

- °T° later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- °X° document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- °Y° document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- °&° document member of the same patent family

Date of the actual completion of the international search

24 August 2004

Date of mailing of the international search report

03/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Beatty, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA2004/000487

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2002/069198 A1 (STEBBINGS DAVID ET AL) 6 June 2002 (2002-06-06) paragraph '0022! - paragraph '0053! page 23 -----	2-6,8-12
A	WO 99/60504 A (UNICAST COMMUNICATIONS CORP) 25 November 1999 (1999-11-25) page 22, line 16 - page 26, line 10; figure 1 -----	2-6,8-12
A	WO 01/11504 A (FLYCAST COMM CORP) 15 February 2001 (2001-02-15) page 2, line 10 - line 19; claim 1; figure 2 page 10, line 14 - line 25 -----	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA2004/000487

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
JP 2001318814	A	16-11-2001	NONE			
US 2003051237	A1	13-03-2003	JP WO	2002116976 A 0213451 A1	19-04-2002 14-02-2002	
US 6209004	B1	27-03-2001	NONE			
US 6330073	B1	11-12-2001	NONE			
US 2002069198	A1	06-06-2002	US US US	2002069098 A1 2002069370 A1 2002065832 A1	06-06-2002 06-06-2002 30-05-2002	
WO 9960504	A	25-11-1999	AU AU CA EP JP JP WO US US US US US US US US US US US US US US TW	749314 B2 3992799 A 2332413 A1 1076871 A1 2002516437 T 2003303105 A 9960504 A1 2003018885 A1 2003028565 A1 2002198778 A1 2003023488 A1 2003005000 A1 2003004804 A1 6317761 B1 6314451 B1 6516338 B1 2002133518 A1 2002120666 A1 2002129102 A1 490626 B	20-06-2002 06-12-1999 25-11-1999 21-02-2001 04-06-2002 24-10-2003 25-11-1999 23-01-2003 06-02-2003 26-12-2002 30-01-2003 02-01-2003 02-01-2003 13-11-2001 06-11-2001 04-02-2003 19-09-2002 29-08-2002 12-09-2002 11-06-2002	
WO 0111504	A	15-02-2001	AU WO	6898400 A 0111504 A2	05-03-2001 15-02-2001	

This Page is inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT OR DRAWING.
- BLURED OR ILLEGIBLE TEXT OR DRAWING
- SKEWED/SLANTED IMAGES
- COLORED OR BLACK AND WHITE PHOTOGRAPHS
- GRAY SCALE DOCUMENTS
- LINES OR MARKS ON ORIGINAL DOCUMENT
- REPERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images problems checked, please do not report the problems to the IFW Image Problem Mailbox